

Serial No.: 10/550,835
Examiner: S. Cattungal
Reply to Office Action mailed January 3, 2008
Page 4 of 5

RECEIVED
CENTRAL FAX CENTER
APR 03 2008

REMARKS

Reconsideration is requested in view of the above amendments and the following remarks. Applicants appreciate the courtesy shown by the Examiner in discussing this application with the Applicants' representative R. Christine Yang on March 12 and 27, 2008 respectively. The above amendments and the following remarks reflect the substance of the discussion. Claims 9 and 13-17 have been editorially revised. Support for the revisions can be found at page 6, lines 18-20 of the specification, among other places. No new matter has been added. Claims 9-17 remain pending in the application.

Claim Rejections – 35 USC § 102

Claims 9-17 are rejected under 35 USC § 102(e) as being anticipated by Frey (US 6,100,626). Applicants respectfully traverse this rejection.

Claim 9 requires that a sensor ground substrate connected electrically with a piezoelectric element and a cable substrate be connected directly or via a relay ground substrate. Claim 9 further requires that at least a part of the cable substrate be covered with the sensor ground substrate or the relay ground substrate.

In one example, the sensor ground substrate connected from the piezoelectric element can be connected directly to the cable substrate. In another example, the sensor ground substrate can be connected or, in another word, relayed to the ground of the cable substrate by a relay ground substrate. This arrangement helps reduce the ground resistance between the sensor ground substrate and the ground of the cable substrate, and thus helps reduce a noise current flow through the ground due to ground potential difference. This would help reduce the image noise and improve the quality of the image obtained (see the paragraph bridging pages 2 and 3 and page 3, lines 6-10 of the specification, among other places).

Frey et al. fail to disclose that a sensor ground substrate connected electrically with a piezoelectric element and a cable substrate be connected directly or via a relay ground substrate, as required by claim 9. Instead, Frey et al. discuss a system for connecting signal lines to a coaxial cable in an ultrasound probe (see Frey et al., Abstract and Fig. 3). Frey et al. are completely silent as to a sensor ground substrate, which is

Serial No.: 10/550,835
Examiner: S. Cattungal
Reply to Office Action mailed January 3, 2008
Page 5 of 5

connected from a piezoelectric element, being connected directly to a cable substrate or being relayed to the cable substrate via a relay ground substrate, as required by claim 9.

Nor do Frey et al. disclose at least a part of the cable substrate being covered with the sensor ground substrate or the relay ground substrate, as required by claim 9. In fact, Frey et al. confirm that conductive trace 18 on transducer flex circuit 2 has a terminal that overlaps and is electrically connected to a terminal of a corresponding conductive trace 24 on fanout flex circuit 6 in the overlap region X (see Frey et al., col. 3, lines 21-26 and Figs. 3 and 4). This is distinct from the invention of claim 9, which requires at least a part of the cable substrate being covered with the sensor ground substrate or the relay ground substrate.

For at least these reasons, claim 9 is patentable over Frey et al. Claims 10-17 ultimately depend from claim 9 and are patentable along with claim 9 and need not be separately distinguished at this time. Applicants are not conceding the relevance of the rejection to the remaining features of the rejected claims.


In view of the above, favorable reconsideration in the form of a notice of allowance is respectfully requested. Any questions regarding this communication can be directed to the undersigned attorney, Douglas P. Mueller, Reg. No. 30,300, at (612) 455-3804.

Respectfully submitted,

HAMRE, SCHUMANN, MUELLER &
LARSON, P.C.
P.O. Box 2902-0902
Minneapolis, MN 55402-0902
(612) 455-3800



Dated: April 3, 2008

By: 
Douglas P. Mueller
Reg. No. 30,300

DPM/cy